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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/566,921

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EXAMINER

MULLER, BRYAN R

ART UNIT

PAPER NUMBER

3727

NOTIFICATION DATE

DELIVERY MODE

01/07/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/566,921	<b>Applicant(s)</b> IMAMURA ET AL.	
	<b>Examiner</b> BRYAN R. MULLER	<b>Art Unit</b> 3727	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 October 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2 and 7-10 is/are pending in the application.
- 4a) Of the above claim(s) 7-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 February 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Election/Restrictions***

1. Newly submitted claims 7-9 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: new claims 7-9 are drawn to a combination and previously submitted claim 2 and new claim 10, which depends therefrom are drawn to a subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require the specific angles and dimensions for the nozzle (subcombination), as claimed in claim 2. The subcombination has separate utility such as the nozzle may be used to spray fluid such as water.
2. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 7-9 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.
3. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim

remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Claim Objections***

4. Claim 10 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The only structures that claim 5 includes is relative to a solenoid valve that is connected to an air supply hose to control air flow to the nozzle. However, neither the solenoid valve nor the supply hose are positively claimed as structure in the claim and the solenoid valve and supply hose are not considered to be part of the nozzle that is being claimed. Therefore, the claim fails to provide any further structure to the actual nozzle.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rider (1,893,210) in view of Bete (2,518,116).

7. In reference to claim 2, Rider discloses a nozzle that is inherently capable of having air blown therethrough to remove residue such as chips from an interior of a machined hole, the nozzle comprising a distal end portion that is inherently capable of being inserted into a machined hole and a spiral flow creating portion (20) that is provided in the nozzle distal end portion and changes a flow of liquid that is flowing inside the nozzle into a spiral flow (as shown in Fig. 1), wherein the spiral flow creating portion has a plurality of guide pieces (22) that are formed at the distal end portion of the nozzle and are formed in a twisted shape so as to form a spiral flow, wherein it would have been obvious that the nozzle would also provide spiral flow to air that may be alternatively injected through the nozzle. The term "twisted" in the claims appears to be a Product-by-process limitation, attempting to define the structure based on the method by which it is made. However, in such Product-by-process claims, the claimed structure is only limited to the structure implied by the steps (see MPEP 2113). The structure of the guide pieces (22) disclosed by Rider would clearly be capable of production by twisting flat pieces into the twisted shape and attaching them to the inside of the nozzle (11). Therefore, the guide pieces of Rider anticipate the structure that is implied by the step of twisting the guide pieces. Rider further discloses that the plurality of guide pieces comprises three notch portions, wherein the three notch portions are formed at 120° intervals in the nozzle distal end portion (as seen in Fig. 4). However, Rider fails to disclose the specific angles that the notch portions are inclined relative to

the axial direction of the nozzle or the lengths of the notch portions. However, it would have been obvious that the nozzle may be provided in different sizes for different applications, wherein at least one size for the nozzle may include the notch portions at a length between 4 and 6 millimeters. Further, Bete discloses a similar nozzle that comprises a spiral flow creating section to change the flow through the nozzle into a spiral flow. Bete further teaches that variations in the type and character of the spray may be had by varying the lead or pitch of the helical vane (similar to the helical vanes 22 of Rider) or the angle and shape of the helical vane (Col. 1, lines 29-37), thus teaching that the angle and length of such vanes are result effective variable for spiral flow producing nozzles. The applicant fails to provide any evidence of criticality or unexpected results that are produced by the claimed incline of 30° to 45° relative to the axial direction of the nozzle or the lengths between 4 and 6 millimeters. Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, through routine experimentation to provide a desired flow through the nozzle of Rider, to modify the angle of the vanes (22) of Rider relative to the axial direction of the nozzle and to modify the lengths of the vanes (12) of Rider, as taught by Bete as being result-effective variables (see MPEP 2144.05 Paragraph II). Thus, the claimed ranges of the angle and length for the notch portions (vanes 12) would have been obvious through routine experimentation.

8. In reference to claim 10, as discussed supra, the claim does not further limit the structure of the nozzle being claimed. However, the nozzle of Rider would be inherently

capable of having a solenoid valve attached thereto to open or close the flow of air from an air supply source.

### ***Response to Arguments***

9. Applicant's arguments filed 10/2/2008 have been fully considered but they are not persuasive. The applicant first argues that the nozzle of Rider is not intended to have air blown therethrough and would not inherently create a spiral flow of air passing through the nozzle. Further, due to the amendments submitted on 10/2/2008, the rejection of claim 2 has been changed from an anticipation rejection under 35 U.S.C. 102(b) to an obviousness rejection under 35 U.S.C. 102(a). Thus, the Examiner has also changed the rejection to indicate that the nozzle of Rider would obviously provide spiral flow to air being blown therethrough even though it is believed that the nozzle of Rider will inherently cause spiral flow of air being blown therethrough. The applicant further argues that neither Rider nor Bete disclose flow of air through the nozzles. However, as discussed supra, the nozzles are inherently capable of being supplied with air and the claim limitation that air is sprayed through the nozzle is merely a statement of intended use, which does not limit the structure of the claim.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Haruki (JP 2002-361192), Pepper (1,205,563), Bete (2,804,341)

and Buelna et al. (1,504,864) all disclose nozzles having similar structure and/or function as the applicant's claimed invention.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRYAN R. MULLER whose telephone number is (571)272-4489. The examiner can normally be reached on Monday thru Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Monica S. Carter can be reached on (571) 272-4475. The fax phone



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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bryan R Muller/  
Examiner, Art Unit 3727  
1/4/2009